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REMARKS

The Examiner is thanked for the careful review of the application as set forth in the outstanding office action. Reconsideration of the application in view of the foregoing amendments and the following discussion is respectfully requested.

Claims Rejections - 35 USC 102

Claims 1-8 and 10 stand rejected as being anticipated by Ohsumi et al. ("Ohsumi"). Claim 9 is also discussed by the office action in the discussion of the rejection under Section 102, and will also be treated as being rejected for the same ground. This rejection is respectfully traversed on the grounds that a prima facie case of anticipation has not been established, and the applied reference does not describe each element of the claimed subject matter.

Applicant does not concede that Ohsumi is prior art with respect to the subject matter of applicant's claimed subject matter of Claims 1-8 and 10. Nevertheless, the reference does not describe all elements of these claims, and thus cannot anticipate these claims.

Claim 1 has been amended to generally include features of Claim 5, now cancelled. Claim 1 recites:

[A] positioning the print medium at a print zone;

[B] determining actual medium size and medium placement characteristics, said actual medium size characteristics including an actual medium length along a media feed path;

[C] using the size and placement characteristics, shifting an image to be printed relative to nominal size and medium placement characteristics; and

[D] printing the shifted image on the medium.

Here the letter designations A-D have been added for convenience in reference.

Ohsumi does not describe at least elements B and C of this claim. Ohsumi does not describe teach or suggest that an actual medium length along

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a media feed path be determined, and the determined media size and placement characteristics be used in shifting an image to be printed relative to nominal size and medium placement characteristics.

The Examiner concedes that Ohsumi does not disclose the features of Claims 5 (page 5, paragraph 6 of the office action), or of Claims 7 and 8 (page 6, paragraph 7 of the office action). A prima facie case of anticipation has not been established as to these claims, and the rejection under Section 102 should be withdrawn.

The rejection of Claim 4 should also be withdrawn, since Ohsumi does not determine a skew characteristic of a leading edge of the medium, but rather assumes that the registration roller 2 has corrected skew of each sheet; 4:15-18.

The rejection under Section 102 should be withdrawn, since Ohsumi does not describe each element of the rejected claims.

Claims Rejections - 35 USC 103

Claim 5 stands rejected as being unpatentable over Ohsumi in view of Kato. As pointed out above, Claim 1 has been amended to generally include features of cancelled Claim 5. Applicant will accordingly discuss Claim 1 and Ohsumi in view of Kato in relation to the Section 103 rejection.

In the rejection of Claim 5 under Section 103, the Examiner states that "Ohsumi does not explicitly disclose the method of Claim 1 wherein said actual medium size and/or placement characteristics include medium length characteristic..." However, the Examiner asserts that Kato discloses in column 5, lines 61-67 and column 6, lines 1-12 that "information relating to the length of the sheet is detected." Without conceding that Kato is prior art with respect to the claimed subject matter of this application, applicant respectfully disagrees with this recitation of teachings of Kato. The cited passage of Kato does not describe that information relating to the length of the sheet is detected, but rather that:

"When the sheet detection means 27a or 27b detects the leading edge of the sheet S, it outputs a detection signal to a CPU (central processing unit, not shown) provided in the apparatus main body 51. The

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CPU determines the timing of the stop or the reversal of the large-diameter roller 25 according to the detection signal from the sheet detection means 27a or 27b and information relating to the length of the sheet in the conveying direction input from an operation unit (not shown)...."

This passage from Kato states that information relating to the length of the sheet is input from an operation unit, and does not describe that an actual length of the sheet is determined. The length information provided thus apparently relates to the nominal length of the sheet, not its actual length. Since this information is used to stop rotation of rollers, and re-direct the sheet to a sheet reversal or duplex path, more exact length data is not needed in this application.

Because Ohsumi does not teach or suggest each of the features of the method of Claim 1, and because Kato fails to supply teachings missing from Ohsumi, the applied references cannot render the subject matter of Claim 1 unpatentable under Section 103. To establish prima facie obviousness, all claim limitations must be taught or suggested by the prior art. MPEP 2143.03; In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claims 7-8 stand rejected as being unpatentable over Ohsumi in view of Mizubata. This rejection is respectfully traversed, for the reasons given above regarding amended Claim 1. Moreover, Mizubata is not directed to a method for printing, but rather to a document reading apparatus and method. Thus, applicant respectfully submits that teachings from Mizubata are not properly combinable with teachings from Ohsumi as asserted by the Examiner.

Claims 11-14, 16, 19 and 20 stand rejected as being unpatentable over Ohsumi in view of Wibbels et al. ("Wibbels"). This rejection is respectfully traversed on the grounds that a prima facie case of obviousness has not been established, and the applied references do not teach or suggest the claimed subject matter.

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Claim 11 has been amended, and now generally include features from Claim 15. Amended Claim 11 recites a method for duplex printing an image on a print medium, comprising:

- positioning a front side of the print medium at a print zone;
- determining actual size and placement characteristics of the medium, said actual medium size characteristics including an actual medium length along a media feed path;
- printing a front side image on said front side;
- passing the print medium through a duplexing path to flip the print medium and present the back side of the print medium at the print zone for printing a back side image;
- measuring leading edge and absolute location characteristics of the flipped print medium;
- calculate shift parameters to shift the back side image to align with the front side image placement;
- print a shifted back side image.

The Examiner states that "although Ohsumi discloses in column 5, lines 1-15 the importance of aligning front and back images, he does not explain the method of alignment by calculating shift parameters to shift the back side image to align with the front side image placement and print a shifted back side image." The Examiner asserts that "Wibbels discloses these limitations in column 5, lines 12-30 by shifting the front and back images for alignment of images." The Examiner further alleges that it would have been obvious to "shift back side image to align with front side image" and that "the suggestion/motivation for doing so would have been to avoid subsequent cutting of copy sheet causing cutting away the images (Ohsumi- column 5, lines 9-15)." Applicant respectfully disagrees with this line of reasoning.

Here, the Examiner has made only broad, conclusory statements regarding the teachings of the references, and has asserted a broad statement of an alleged motivation to combine, i.e. to "reproduce the original in the same exact layout."

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Yet there is no description as to how the references provide this alleged suggestion, or indeed how the alleged suggestion would lead one to the claimed subject matter.

Wibbel describes a duplex image alignment process, wherein a test sheet having indicia on each side of the sheet is imaged by a printer or copier. The process is described at 4:17:

In a preferred embodiment, sheet media 100 is a conventional, non-opaque media that enables a visual detection of an image formed on a back side of the sheet when the sheet is viewed from the front side, such as when the sheet is held up to a light source. Also in a preferred embodiment, the indicia printed on each side of sheet 100 includes portions of a vernier scale having adjustment indicators indicative of incremental adjustments to be made to printer 10 for aligning images on a duplexed sheet. The vernier scale imaged on the front side is visually inspected by a user relative to the portion of the scale imaged on the back side that is seen through the sheet. Based on the repeatable misalignment of the scales, selected adjustment indicators are manually entered into printer 10 via control panel 54 and firmware 56 to modify/correct duplex image alignment (registration) parameters of printer 10.

Thus, Wibbel does not describe a method as in Claim 11, including:

determining actual size and placement characteristics of the medium, said actual medium size characteristics including an actual medium length along a media feed path;

printing a front side image on said front side;

passing the print medium through a duplexing path to flip the print medium and present the back side of the print medium at the print zone for printing a back side image;

measuring leading edge and absolute location characteristics of the flipped print medium;

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calculate shift parameters to shift the back side image to align with the front side image placement;

print a shifted back side image.

Thus, Wibbel describes a process for adjusting a printer or copier based on misalignment between already printed front and back side images, to improve alignment for subsequently processed duplex jobs. Even assuming, without conceding that it is appropriate to do so, that Ohsumi is combined with Wibbel, the claimed subject matter still does not result. At most, the process described in Wibbel is applied according to this combination to make manual adjustments to address subsequent print jobs in the Ohsumi machine.

Applicant respectfully submits that Ohsumi and Wibbels do not teach or suggest the subject matter of amended Claim 11 as well as claims depending therefrom, and that the rejection should be withdrawn.

Claim 15 stand rejected as being unpatentable over Ohsumi in view of Wibbels and Kato. Claim 11 has been amended to generally include features from Claim 15, now cancelled. Kato does not describe determining an actual length characteristic, as described above regarding amended Claim 1. A combination of Ohsumi, Wibbels and Kato still fails to teach or suggest the claimed subject matter of Claim 11.

Claims 17-18 stand rejected as being unpatentable over Ohsumi in view of Wibbels and Mizubata. Similar considerations apply to Claims 17-18 as were discussed above regarding Claims 7-8.

Because a prima facie case of obviousness has not been established, and because the applied references do not teach or suggest the claimed subject matter, the rejection under Section 103 should be withdrawn.

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New Claim 21

New Claim 21 depends from Claim 11 and further recites that "determining actual medium size and medium placement characteristics is performed without printing on said print medium." The feature of Claim 21 further distinguishes from Wibbel, which first prints a pattern on the print medium prior to determining placement characteristics.

CONCLUSION

The outstanding rejections have been addressed, and the application is in condition for allowance. Such favorable reconsideration is solicited.

Respectfully submitted,



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